REMARKS

Claims 1-11, 40-56, 59-74, and 103-127 have been canceled without prejudice as being drawn to a non-elected invention. Claims 12-14, 17-20, 23-39, 57, 58, 75-78, 80-83, 86-89, and 91-100 have been amended. Claims 128-137 have been added. The application now includes claims 12-39, 57, 58, 75-102, and 128-137.

Accompanying this amendment are copies of the non-literature patent references identified on pages 11-15 of the information disclosure statement (IDS) filed June 10, 2003. As evidenced by the IDS submission and filing card, these references did accompany the IDS submission, and may have been lost at the USPTO. Similar submissions were made in co-pending patent applications of Wireless Valley Communications, Inc. Further, it is noted that the principal reference of record relied upon by the Examiner is found on the pages identified by the Examiner as being missing from the IDS submission. In view of this, the undersigned requests that the references now be considered, and that they be treated as having been timely provided June 10, 2003.

The office action summary record also incorrectly notes that claims 103-127 were rejected. However, these claims were merely withdrawn from consideration by the Examiner due to a response to an earlier restriction requirement. These claims have now been canceled without prejudice or disclaimer.

Claims 12-19, 29-34, 57, 58, 75-82 and 92-97 have been rejected over Skidmore "A Comprehensive In-Building and Microcellular Wireless Communication System Design Tool". This reference is a Master's Thesis of one of the inventors of the present application. Claims 29, 34-39, 92, and 97-102 have been rejected as being anticipated by U.S. Patent 6,442,507 to Skidmore. This patent has common inventorship to the present applicants, and is assigned to Wireless Valley (the assignee of the present application). Claims 12, 20-28, 75, and 83-91 have been rejected as being anticipated by U.S. Patent 6,625,454 to Rappaport. This patent has common inventorship to the present applicants, and is assigned to Wireless Valley (the assignee of the present application).

In response, the three references have been reviewed, and the claims of the present application have been amended to recite new and unobvious features of

the invention. In particular, the claims now require fusing measurement data collected within the physical space into a simplified model for network performance (see page 28 of the application), and allows for control of the actual network hardware/software/firmware (as is discussed in more detail below). As explained at the bottom of page 19 and the top of page 20 of the application, this invention includes features not found in co-pending applications by Wireless Valley Communications, Inc. (such as those identified by the Examiner in the present office action). The present invention solves more complicated problems associated with data communications networks, such as those which arise from packet size, packet protocols, equalizer deployment, modulation methodology, coding methods, number of co-channel users, type of persistency used for packet retransmission, multipath propagation effects, use or proprietary, non-public methods for implementing network devices, etc. Further, as explained on page 23 of the application, the application is distinguished from the prior art since it enables either a co-located server or switch or a remote server or switch (e.g., one that is physically very far from the network) to obtain and analyze measurement data from measurement collectors or agents that may be either tuned or instructed to perform different types of measurements. As explained beginning in the sentence bridging pages 24 and 25 of the application, measurements of actual network performance can be overlaid and displayed with predicted measurements, and are also used to optimize the network by permitting the generation of "new predictive models that match the measured network performance in the environment". These new predictive models may then be used to implement changes in the actual equipment settings or to make software or firmware changes in the network. The independent claims have also been amended to require that the computerized model provides a site specific representation of one or more of a floor plan, building layout, terrain characteristics, or RF characteristics (see the bottom of page 39 of the application).

The claims have also been amended to highlight the ability to use the network communications model which is created from a combination of measurement data and predicted data (i.e., proposed changes to the network which have been considered based on the network communications model) to implement the modeled network settings and locations in the actual network (see particularly, the process step in Figure 6 which provides that if predicted performance satisfies

design requirements then "Implement the modeled network settings and locations in the actual data communications network"; the process step in Figure 7 which provides that if measured performance satisfies design requirements "Vary network software, firmware and hardware settings or equipment locations to improve network performance"; and the process step in Figure 8 which provides that if performance goals are achieved based on re-generated performance predictions to "Change hardware or software settings, add additional hardware and location of equipment as decided in above predictions"). As explained on page 43 of the application, "By changing the hardware used in the network, or changing the locations of hardware or the configuration of that hardware, firmware or software which controls each device within the network, one skilled in the art can improve the performance of the network". Furthermore, at the bottom of page 43 it is disclosed that after simulating the predicted outcome, the invention can then "update all the relevant settings of the equipment with the changes". Measuring the results after the changes are made will then provide feedback on the actual performance of the network (see last sentence on page 43). Changes to component settings can be implemented by SNMP protocol or by other means (see page 43). This clearly shows the ability of the present invention to use a computer or server to fuse measurement and predictions for the purpose of controlling or adjusting the actual equipment used in the network; something that is not contemplated by the prior art cited by the Examiner.

Independents claim 12, 29, 57, 75, and 92 have been amended to highlight (1) predictions are based on both modeled attributes of components and measurement data from measurement devices located in the physical space, (2) settings or configurations of one or more components in the actual communications network are adjusted via instructions sent from a computer (e.g., a computer, server, switch, network of servers, etc.), and (3) where the computerized model, the measured data, the predictions, and the control of actual hardware preferably all involve the computer or server. The claims are also focused on an installed network rather than one that is to be deployed. As noted above, the invention allows, after installation of a network, adjusting, correcting, changing configurations, or optimizing the network as it runs. This is a distinct feature not found in the prior art cited by the Examiner. With reference to Figures 6-8 of the application, if predictions do not satisfy desired performance criteria or

can be improved, proposed changes can be analyzed, and if they meet the desired performance criteria or constitute an improvement, those changes can be implemented in the communications network, and are communicated from the computer or server to the network components. By considering both the modeled attributes for particular components, plus actual measured data for the communications network installed in the physical space, the prediction models themselves can be tuned to allow for more accurate predictions and on-going communications network adjustments that need to be made. The invention also has the particular advantage that the computer (e.g., computer, server, switch, network of servers, etc.) which includes the computerized model, also receives the measurement data, performs the predictions, and issues instructions which cause changing settings or orientations of components already installed in the communications network. This computer can be located either at the physical space or be remote from the physical space (e.g., thousands of miles away connected by a communications link). Furthermore, it should be understood that one computer may produce the computerized model and another computer or server may use or modify the computerized model, and may provide predictions based on data from the measurement agents. Therefore, it will be understood that the claims recite a "computer or server" as covering situations where one or more than one computer or server are used.

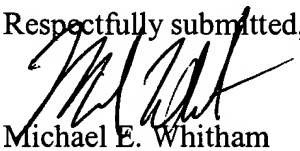
As will be appreciated from a review of the cited references, none of Skidmore (Thesis), Skidmore (US Patent 6,442,507), or Rappaport (US Patent 6,625,454) teach a methodology or system for analyzing and adjusting communications networks where (1) predictions are based on both modeled attributes of components and measurement data from measurement collectors or agents located in the physical space, (2) settings or configurations of one or more components in the communications network are adjusted via instructions sent from a computer (e.g., a computer, server, network of servers, etc.), and (3) the computerized model, the measured data, the predictions, and the control of actual hardware preferably all involve the computer or server. As such, none of the claims are anticipated by any of the references.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 12-39, 57, 58, 75-102, and 128-137 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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